

ABSTRACT

A flat spectrum illumination source for use in optical metrology systems includes a first light source generating a visible light beam and a second light source generating an ultraviolet light beam. The illumination source also includes an auxiliary light source  
5 generating a light beam at wavelengths between the visible light beam and the ultraviolet light beam. The three light beams are combined to provide a broadband probe beam that has substantially even illumination levels across a broad range of wavelengths. Alternately, the illumination source may be fabricated as an array of light emitting diodes selected to cover a range of separate wavelengths. The outputs of the LED array are combined to produce the  
10 broadband probe beam.